

Title (en)

LOW NOISE SOLID STATE FLUOROSCOPIC RADIATION IMAGER

Title (de)

GERÄUSCHARME FLUOROSKOPISCHE FESTKÖRPERBILDAUFNAHMEVORRICHTUNG FÜR STRAHLUNG

Title (fr)

APPAREIL D'IMAGERIE RADIOSCOPIQUE A SEMICONDUCTEURS A FAIBLE NIVEAU DE BRUIT

Publication

EP 0686268 B1 19990324 (EN)

Application

EP 95905976 A 19941215

Priority

- US 9414531 W 19941215
- US 17492193 A 19931229

Abstract (en)

[origin: WO9518390A1] A low noise fluoroscopic radiation imager includes a large area photosensor array having a plurality of photosensors arranged in a pattern so as to have a predetermined pitch, and a low noise addressable thin film transistor (TFT) array electrically coupled to the photosensors. The TFT array includes a plurality of low charge retention TFTs, each of which have a switched silicon region that has an area in microns not greater than the value of the pitch of the imager array expressed in microns. The portion of the switched silicon region underlying the source and drain electrodes of the TFT is not greater than about 150 % of the portion of the switched silicon region in the channel area of the TFT. The ratio of the TFT channel length (distance between the source and drain electrodes across the channel) to the channel width is less than 20:1, and commonly less than 10:1, with the channel length in the range of between about 1 μ m and 4 μ m. The photosensor array also includes crossover regions between address lines that have substantially no silicon therebetween so that no switched silicon region exists at the crossovers.

IPC 1-7

G01T 1/24; **G01T 1/29**

IPC 8 full level

G01T 1/20 (2006.01); **G01T 1/24** (2006.01); **G01T 1/29** (2006.01); **H01L 29/786** (2006.01)

CPC (source: EP US)

G01T 1/20184 (2020.05 - EP US); **G01T 1/2928** (2013.01 - EP US)

Citation (examination)

IEEE Transactions on Nuclear Science; Antonuk L. E. et al.: "Radiation Response Characteristics of Amorphous Silicon Arrays for Megavoltage Radiotherapy Imaging", published August 1992

Designated contracting state (EPC)

DE FR NL

DOCDB simple family (publication)

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DOCDB simple family (application)

US 9414531 W 19941215; DE 69417407 T 19941215; EP 95905976 A 19941215; JP 51809695 A 19941215; US 17492193 A 19931229